

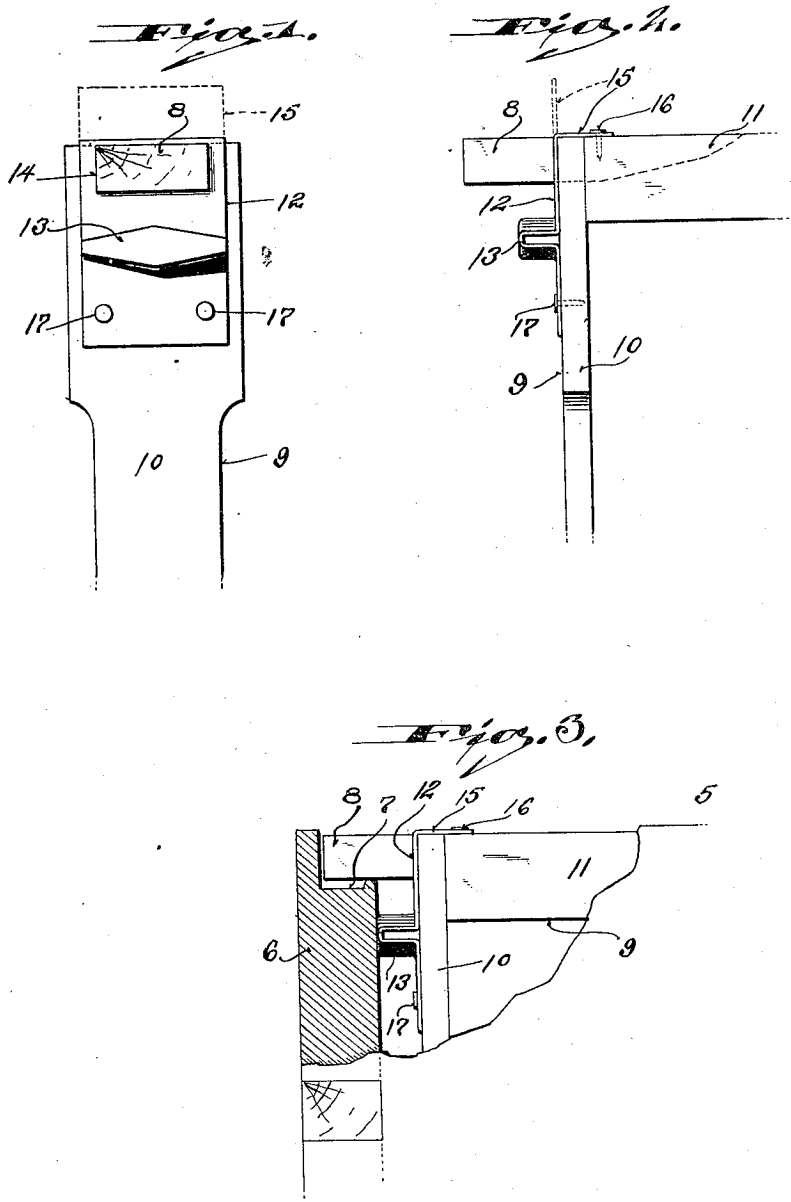
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G. FRATER

FRAME METAL SHOULDER

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INVENTOR.

Gorden Frater

BY

Ira M. Jones.  
ATTORNEY.

# UNITED STATES PATENT OFFICE.

GORDEN FRATER, OF WATERTOWN, WISCONSIN, ASSIGNOR TO G. B. LEWIS COMPANY,  
OF WATERTOWN, WISCONSIN, A CORPORATION OF WISCONSIN.

## FRAME METAL SHOULDER.

Application filed January 3, 1922. Serial No. 526,618.

*To all whom it may concern:*

Be it known that I, GORDEN FRATER, a citizen of the United States, and resident of Watertown, in the county of Jefferson and State of Wisconsin, have invented new and useful Improvements in Frame Metal Shoulders, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention relates to an improved metal shoulder more especially designed for use in connection with bee hives and other similar structures.

In the present type of bee hive, each hive frame is supported within the hive by butts or extensions formed on the frame top bar ends for engagement with shelves in the hive. This structure is objectionable as when hives containing bees or honey are hauled over rough roads or handled in any manner designed to place an unusual strain on the butts of the frame top bar, on which the weight of the frame is sustained within the hive, excessive breakage results and, by reason of lateral play of the frame, bees are often times crushed between the hive frames and the hive wall.

Furthermore the unusual pressure incident to hauling, etc. tends to cause the butts of the frame to split back from the end upward and in a horizontal manner preventing the frame from being again sustained in the hive in a normal manner, and breaking combs whether they are empty, filled with honey or brood, or covered with bees, which might thus be crushed.

Hence with the above and other objections to the existing type of hive structure in mind, this invention has for one of its objects to provide a device which affords firm resistance to such cleavage by a metal part which passes up over the frame end bar and is made fast thereto and the top bar to afford this resistance.

It is a further object of this invention to provide a metal shoulder of the character described which is constructed of metal having a degree of resiliency and formed with an intermediate outstruck lug or projection for maintaining sufficient space between the frame end and the hive wall to prevent crushing of bees therebetween, this lug or projection affording a spring or resilient

connection between the frame end bar and top bar.

This invention has for a still further object to provide a frame metal shoulder which is preferably punched or stamped from sheet metal and has its major part secured to the frame end bar and its upper part slotted to receive the top bar butt and bent over the top bar and attached thereto, securing the frame end bar and top bar in their proper relation and reenforcing the same.

With the above and other objects in view which will appear as the description proceeds, my invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the herein disclosed invention may be made as come within the scope of the claims.

In the accompanying drawing, I have illustrated one complete example of the physical embodiment of my invention constructed according to the best mode I have so far devised for the practical application of the principles thereof, and in which:

Figure 1 is an end elevational view of the upper portion of a hive end frame equipped with my device;

Figure 2 is a side view thereof, and

Figure 3 is a fragmentary view, partly in section and partly in side elevation, illustrating the manner of supporting a frame equipped with my device within a hive.

Referring now more particularly to the accompanying drawing, the numeral 5 designates a hive, the side walls 6 of which, but one being illustrated in the drawing, are provided with shelf portions 7 on their faces near the top thereof to receive butts 8 extended from the ends of a hive frame 9. The frame 9 is constructed of side bars 10, but one being shown, a top bar 11 and a bottom bar (not shown). Butts 8 are preferably extensions of bar 11 projected beyond the side bars 10 to suspend frame 9 within the hive.

Heretofore, bars 10 and 11 have been rigidly secured together, resulting in excessive breakage of the frame when the hive, equipped therewith and containing bees or honey, is hauled over rough roads or handled in any manner designed to place an un-

usual strain on butts 8. This unusual pressure incident to hauling, etc., tends to cause the butts of the frame to split from the end, upward and in a horizontal manner, as depicted by dotted lines in Figure 2, preventing the frame from being again sustained in the hive in a normal manner, and breaking the comb whether it be empty, filled with honey or brood, or covered with bees which might thus be crushed, as hereinbefore stated.

To eliminate this fault, I provide a resilient connection only between the top and side bars by a frame metal shoulder 12 attached to the frame at each upper end. This metal shoulder is preferably punched or stamped from a substantially rectangular sheet or blank of metal and is provided with a lug or projection 13 adjacent one end formed by punching a portion of the strip outwardly, as clearly illustrated in Figures 2 and 3. The other end portion of the strip is formed with an opening 14 of a size to receive butt 8 and spaced from the adjacent termination of the blank a short distance to provide a flange part 15 for engagement over the top bar to which it is secured, as at 16, the other end of the strip being secured, as at 17, to the end bar.

As will be evident from the structure above described and illustrated in the drawings, a substantially resilient connection is provided between the end and top frame bars which will give to a certain degree under stress and thus prevent injury to the frame, in the matter hereinbefore described. This resilient or spring connection is provided by the projection or lug 13 which also serves to maintain a constant space between the frame end bars and hive walls to prevent crushing of live bees therebetween and swarming.

With this construction it will be apparent that damage to the hive frames and the bees within the hives is eliminated, and the bees are permitted free access to the parts of the hives between the frames and the hive sides.

What I claim as my invention is:

1. In a bee hive, the combination with a hive frame including a top bar and an end

bar, the top bar carrying a butt extended beyond the end bar for engagement with a hive part to suspend the frame therein, of a metal shoulder secured to the end bar and provided with a flange part engaged over the top bar and secured thereto, said metal shoulder having an opening through which said top bar butt extends.

2. In a bee hive, the combination with a hive frame including a top bar and an end bar, the top bar carrying a butt extended beyond the end bar for engagement with a hive part to suspend the frame therein, of a metal member secured to the upper portion of the end bar and provided with an opening spaced from its upper end for receiving the top bar butt, that portion of the metal member above the opening forming an attaching portion engageable with the top bar inwardly of its butt, means securing the attaching portion to the top bar, means securing the other end of the metal member to the end bar, and a projection on that portion of the metal member below the opening for engagement with the adjacent hive side to retain the frame in spaced relation thereto.

3. In a bee hive frame including a top bar and an end bar, and a resilient connection between the top and end bars.

4. In a bee hive frame having an end bar and a top bar carrying a butt portion extended beyond the end bar for engagement with a hive part to suspend the frame therein, means for connecting the end and top bars, comprising a sheet metal strip having an opening of a size to pass over the top bar butt portion, a top bar attaching portion directed laterally from a point adjacent the outer end of said opening, means securing said attaching portion to the top bar, means securing the end portion of the strip remote from the top bar attaching portion to the end bar, and resilient means formed in the strip intermediate both of said securing means whereby a resilient connection is formed between the bars.

In testimony whereof I affix my signature.  
GORDEN FRATER.